UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/719,953	11/21/2003	Christina Ann Lacomb	130802	3520

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GENERAL ELECTRIC COMPANY
GLOBAL RESEARCH
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NISKAYUNA, NY 12309

EXAMINER
FIELDS, BENJAMIN S

ART UNIT	PAPER NUMBER
3692	

NOTIFICATION DATE	DELIVERY MODE
09/25/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ldocket@crd.ge.com
rosssr@crd.ge.com
parkskl@crd.ge.com

	Application No.	Applicant(s)
	10/719,953	LACOMB ET AL.
Office Action Summary	Examiner	Art Unit	
	BENJAMIN S. FIELDS	3692	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _20 July 2009_.
2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1,3-15,18-26 and 28-34_ is/are pending in the application.
   4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) _1,3-15,18-26 and 28-34_ is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All   b) ☐ Some * c) ☐ None of:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____.
      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _20 July 2009_.
4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Introduction

1.   The following is a **FINAL** Office Action in response to the communication received on 20 July 2009. Claims 1, 3-15, 18-26, and 28-34 are now pending in this application.

Response to Amendments

2.   The Examiner acknowledges the Applicants filing of a Terminal Disclaimer and thus removes the originally asserted Double Patenting Rejection of Claims 1-34 in view of such.

3.   The Terminal Disclaimer filed 20 July 2009 has been approved.

4.   The Examiner acknowledges the Applicants amendment to Claims 15 and 33-34 in view of the originally asserted 35 U.S.C. 101 Rejection of Claims 15-25 and 33-34. As such, the Examiner removes the originally asserted 35 U.S.C. 101 Rejection of Claims 15-25 and 33-34.

5.   The Examiner wishes to note that the Applicants have not responded to the originally asserted 35 U.S.C. 112 Rejection of Claims 1-14. As such, the Examiner will maintain the rejection of the originally asserted 35 U.S.C. 112 Rejection of Claims 1-14.

6.   Applicants Amendments to Claims 1-34 have been acknowledged in that: **Claims 1, 3, 15, 24, 26, 28, and 33-34 have been newly amended**; **Claims 2, 16-17, and 27 have been newly cancelled**; **NO Claims have been newly added**; hence, as such, **Claims 1, 3-15, 18-26, and 28-34 are pending in this application**.

Claim Rejections - 35 USC § 112

7.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8.   Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Referring to Claims 1-14: Claims 1-14 are comprised of essential element system structural steps. A system or an apparatus claim should always claim the structure **or** the hardware that performs the function. Applicant's claimed limitations consist of hardware **and** software according to the specification. See MPEP § 2172.01.

Claims 1-14 recite a system for detecting behavioral patterns related to a business comprising various features. The body of the claim, however, is not commensurate with an understood definition of a system or apparatus. More specifically, as an example, recited elements such as an "analytics engine" fail to provide any structure and merely recite functionally descriptive material and abstract ideas. It is thereby unclear what structure the system is comprised of and how the various features combine to form a system or apparatus.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

9.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10.   Claims 1, 3-15, 18-26, and 28-34 are rejected under 35 U.S.C. 103(a) as being

unpatentable over James (US PG Pub. No. 2004/0172409), [hereinafter James] in view

of Yahil et al. (US Pat. No. 7,328,182), [hereinafter Yahil].

Referring to Claim 1:   James discusses a system for detecting [behavioral]

patterns related to the financial health of a business entity, comprising: at least one data

collection application configured to extract financial data and business data that relates

to the business entity from at least one data source, wherein the financial data

comprises at least one of quantitative financial data and qualitative financial data, and

wherein the business data comprises at least one of quantitative business data and

qualitative business data (James: Abstract; Figures 1, 3-7; Page 1, Paragraphs 0006-

0010); and an analytics engine residing on a computing device as programming

instructions and configured to perform analytics on the financial data and business data,

wherein the analytics engine is configured to: analyze the quantitative financial data and

quantitative business data using a financial anomaly detection technique to detect the

[behavioral] patterns associated with the business entity (James: Figures 1, 3-7, 40-48;

Page 1, Paragraphs 0006-0010; Page 4, Paragraph 0077-Page 5, Paragraph 0094);

and analyze the financial data and/or qualitative business data using the financial

anomaly detection technique to detect the [behavioral] patterns associated with the business entity (James: Page 1, Paragraphs 0006-0010; Page 4, Paragraph 0077-Page 5, Paragraph 0094).

James, however, does not expressly discuss the term "behavioral" in relation to the patterns related to the financial health of a business entity.

Yahil, in a similar environment, discloses the term "behavioral" in relation to the patterns related to the financial health of a business entity (Yahil: Column 3, Line 31-Column 4, Line 28; Claims).

At the time of the invention it would have been obvious to one of ordinary skill in the art to modify the method and system of James for analyzing data with the features of Yahil for a system and method for prediction of behavior in financial systems for the purpose of minimizing the complexity of forecasting the behavior of a business entity (Yahil: Page 4, Paragraphs 0048-0049).

Referring to Claim 3: James discusses a system, wherein the analytics engine is further configured to fuse the analyzed quantitative financial data and/or quantitative business data with the analyzed qualitative financial data and/or qualitative business data to detect the [behavioral] patterns associated with the business entity (James: Page 4, Paragraph 0077-Page 5, Paragraph 0094).

Referring to Claim 4: James teaches a system, wherein the data source comprises at least one of quantitative business and financial information sources and qualitative business and financial information sources (James: Figures 1, 40-48; Page

4, Paragraph 0077-Page 5, Paragraph 0094; Page 6, Paragraph 0017-Page 7,

Paragraph 0140).

Referring to Claim 5:   James discloses a system, wherein the [behavioral]

patterns comprises at least one of likelihood of fraud, financial credit or investment risk

and good credit or investment prospect associated with the business entity (James:

Page 6, Paragraph 0017-Page 7, Paragraph 0140).

Referring to Claim 6:   James shows a system, wherein the data collection

application comprises at least one of quantitative data collection applications and

qualitative data collection applications (James: Figures 1, 40-48; Page 4, Paragraph

0077-Page 5, Paragraph 0094; Page 6, Paragraph 0017-Page 7, Paragraph 0140).

Referring to Claim 7:   James discusses a system, wherein the quantitative data

collection applications comprise commercial database data extraction tools and financial

data extraction tools (James: Figures 1, 40-48; Page 6, Paragraph 0017-Page 7,

Paragraph 0140).

Referring to Claim 8:   James teaches a system, wherein the financial data

extraction tools are configured to extract financial data and financial measures from the

quantitative financial data and quantitative business data (James: Figures 1, 40-48;

Page 4, Paragraph 0077-Page 5, Paragraph 0094; Page 6, Paragraph 0017-Page 7,

Paragraph 0140; Claims).

Referring to Claim 9: James discloses a system, wherein the qualitative data

collection applications comprise event detection and natural language processing tools

(James: Page 4, Paragraph 0077-Page 5, Paragraph 0094; Page 6, Paragraph 0017-Page 7, Paragraph 0140).

Referring to Claim 10: James shows a system, wherein the event detection and natural language processing tools are configured to extract keywords and text patterns from the qualitative financial data and qualitative business data (James: Page 4, Paragraph 0077-Page 5, Paragraph 0094; Page 6, Paragraph 0017-Page 7, Paragraph 0140).

Referring to Claim 11: James teaches a system, wherein the financial anomaly detection technique comprises at least one of outlier detection, trend analysis, correlation analysis, regression and factor and cluster analysis (James: See Figures; Claims).

Referring to Claim 12: James discusses a system, wherein the financial anomaly detection technique detects the [behavioral] patterns based on an analysis of at least one of past financial measures related to the business entity, past financial measures related to at least one industrial segment associated with the business entity and current financial measures related to at least one industrial segment associated with the business entity (James: Page 4, Paragraph 0077-Page 5, Paragraph 0094; Page 6, Paragraph 0017-Page 7, Paragraph 0140; Page 10, Paragraph 0196-Page 11, Paragraph 0218).

Referring to Claim 13: James shows a system, wherein the analytics engine is further configured to use a reasoning methodology to detect the [behavioral] patterns related to the business entity, and wherein the reasoning methodology is based on

temporal relationships, interactions and confidence levels associated with the business

data and financial data (James: Page 6, Paragraph 0017-Page 7, Paragraph 0140;

Page 10, Paragraph 0196-Page 11, Paragraph 0218; Claims).

Referring to Claim 14: James discloses a system, wherein the analytics engine

is further configured to generate an alert signal, wherein the alert signal comprises at

least one of a visual representation and textual representation of the detected

[behavioral] patterns (James: See Figures; Page 4, Paragraph 0077-Page 5, Paragraph

0094; Page 6, Paragraph 0017-Page 7, Paragraph 0140; Page 10, Paragraph 0196-

Page 11, Paragraph 0218; Claims).

Referring to Claims 15 and 18-25: Claims 15 and 18-25 are the method for the

system of Claims 1 and 3-14. As such, Claims 15 and 18-25 are rejected under the

same basis as are Claims 1 and 3-14 as mentioned supra.

Referring to Claims 26 and 28-32: Claims 26 and 28-32 are directed toward a

computer-readable medium storing computer instructions for the system of Claims 1

and 3-14 and the method of Claims 15 and 18-25. As such, Claims 26 and 28-32 are

rejected under the same basis as are Claims 1 and 3-14 as mentioned supra.

Referring to Claims 33-34: Claims 33-34 parallel the limitations of Claims 1. As

such, Claims 33-34 are rejected under the same basis as is Claim 1 as mentioned

supra.

Response to Arguments

11.   Applicants arguments filed 20 July 2009 have been fully considered but have

been found to be **moot** and **non-persuasive**. Applicants argue:

Argument

35 USC §103

The Office rejects claims 1-34 under 35 USC 013(a) as being unpatentable over James (U.S. Pat. Pub. No. 2004/0172409) in view of Yahil (U.S. Pat. No. 7,328,182. The Applicant respectfully traverses the rejection and respectfully submits that the applied references do not teach, suggest, or disclose either individually or in combination the claimed features. In addition, the Applicant does not concede these to be prior references. The Office indicates that James describes the extraction and analysis/processing of 'financial data and business data' and that the financial data comprises at least one of 'quantitative financial data and qualitative financial data' and the business data comprises at least one of 'quantitative financial data and qualitative financial data'. Applicant respectfully disagrees with this conclusion and does not believe that James processes the combining of both quantitative and qualitative data as presently claimed. James Abstract describes an invention wherein "the system can automatically identify patterns of template data points encapsulated in the form of one or more "events." Calculations and analysis relating to those identified events can be automatically performed at the identified locations of the events. Events are user-defined, and can be defined in reference to multiple channels of data. The system can perform various correlation calculations in comparing events with data points. Upon identifying the location of various events in the various data files, markers can be placed at those file locations. Analysis calculations can then be performed related to the marked data. The system can incorporate the automated time-scaling of patterns, marker sorting heuristics, the adjustment of fit sensitivity based on the size of the pattern, target value weighing, and the calculation of various confidence values relating to the processing of the system." The data, whether from the 'physical data source' or a sensor, is numerical data as explained in the James specification and processing. The Office refers to James Figure 1 which shows the data collection component 107

includes sensors 104 and 'physical data source' 102. This component 107 is used as the source for the analysis as noted in James Par. [0062]. It is clearly intended for numerical quantitative data and processing. Applicant does not believe that James refers to any qualitative processing as defined in the present application and respectfully requests that the Office reconsider its position or locate the appropriate section in James that details such qualitative processing. Yahil also describes a quantitative processing of numerical data. The present claims relate to processing that combines the analysis of quantitative data (e.g.: numerical data) with qualitative data (e.g.: text and verbal data) in order to detect behavioral patterns. Further dependent claims recite additional aspects related to other features such as fusing of the quantitative and qualitative data for detecting financial anomalies. Accordingly Applicant submits that the combination of the cited references would not render the subject matter of the amended claims obvious to one of ordinary skill in the art. Applicant respectfully requests that the Office withdraw the rejection under 35 USC 103.

Regarding Argument

The Examiner respectfully disagrees. Per Applicants, the James reference describes the extraction and analysis/processing of 'financial data and business data' and that the financial data comprises **at least one of** 'quantitative financial data and qualitative financial data' and the business data comprises at least one of 'quantitative financial data and qualitative financial data'. James does show processes combining both of quantitative and qualitative data as presently claimed within the instant application. James describes the extraction and analysis/processing of 'financial data and business data' and that the financial data comprises **at least one of** 'quantitative financial data and qualitative financial data' and the business data comprises at least one of 'quantitative financial data and qualitative financial data'. James, per Applicants

is clearly intended for numerical quantitative data and processing. Yahil (per Applicants) also describes a quantitative processing of numerical data.

The Examiner notes that the Office has provided its position regarding both the at least one of: qualitative and quantitative processing in the James and Yahil references. The Applicants have not provided a fully responsive traversal to the references relied on as prior art within the originally issued Office Action. The Applicants have simply mentioned that they traverse the originally issued Office Action, summarized both the James and Yahil references, and discussed the presently pending instant claims at hand.

12.   Applicants additional arguments filed 20 July 2009 have been fully considered but have been found to be **moot** and **non-persuasive**. As the remaining claims depend directly or indirectly from the independent claims mentioned/discusses above, the Examiner maintains all previously asserted rejections.

Conclusion

13.   Accordingly, **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication should be directed to BENJAMIN S. FIELDS at telephone number 571.272.9734. The examiner can normally be reached MONDAY THRU FRI between the hours of 9AM and 7PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, KAMBIZ ABDI can be reached at 571.272.6702. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Benjamin S. Fields
16 September 2009
/Harish T Dass/
Primary Examiner, Art Unit 3692